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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,385

02/12/2004

Eric Richard Kern

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08/22/2006

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EXAMINER

LEE, CHUN KUAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/777,385

Applicant(s)

KERN, ERIC RICHARD

Examiner

Chun-Kuan (Mike) Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

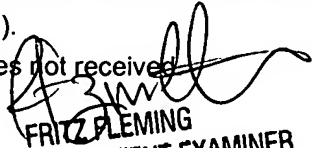
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
8/18/2006

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 and 22-23 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments with respect to claim 20 have been fully considered but they are not persuasive. Currently claims 15-20 are cancelled and claims 1-14 and 21-23 are pending for examination.
2. In responding to applicant's arguments regarding the rejection of claim 21 under 35 U.S.C. 102 that Frantz does not teach disconnecting a USB storage device emulator from the remote bootable computer while the USB Mass Storage Device Interface is reconfigured to show how many storage devices are mounted on the administrative computer and are available for use with the remote bootable computer, because the USB device emulator application (Frantz, Fig. 3 ref. 320) is not a USB Storage Device Emulator and the "resetting a port" is not the same as "disconnecting," as stated in the last paragraph on page 6 to the 2nd paragraph on page 7. Applicant's arguments have fully been considered, but are found not to be persuasive.

The USB device emulator application (Frantz, Fig. 3 ref. 320) does implement the function of the USB Storage Device Emulator as the USB device emulator application is coupled to the plurality of storage device (Fig. 2, ref. 240, 245, 295). Further more, the resetting function in accordance to the USB standard do result in the disconnection,

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more specifically, during the resetting a SE0 signal is driven on a port during a period of 10ms to 20ms normally (USB Specification, Section 11.5.1.5 on page 313), wherein the driving of the SE0 $\geq 2.5\mu\text{s}$ indicates a disconnect condition (USB Specification, Table 7-2 on page 149).

In responding to applicant's arguments, examiner reiterates his rejection of claim 21.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 and 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 22 contain the trademark/trade name "Java applet". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or

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trade name. In the present case, the trademark/trade name is used to identify/describe data transferring utilizing web browser and, accordingly, the identification/description is indefinite. Examiner will assume "web browser" for the current application.

As per claims 2-7, 9-14 and 23, claims 2-7, 9-14 and 23 are rejected at least due to direct or indirect dependency on the rejected independent claims 1, 8 and 22 respectively.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Frantz et al. (US Patent 6,636,929).

As per claim 21, Frantz teaches a method comprising:

mounting a plurality of mass storage devices (Fig. 1, ref. 240, 245 and Fig 2, ref. 240, 245, 295) on an administrative computer (Fig. 1, ref. 200 and Fig 2, ref. 200) (col. 1, ll. 34-59 and col. 7, ll. 9-59);

presenting to a USB Mass Storage Device Interface on (Fig. 1, ref. 150 and Fig 2, ref. 150) a remote bootable computer (Fig. 1, ref. 100 and Fig 2, ref. 100) a command indicating how many mass storage devices are mounted on the administrative computer and are available for use by the remote bootable computer (col. 2, ll. 16-33 and col. 9, ll. 42-59 and col. 10, l. 56 to col. 11, l. 21), wherein the remote computer can be remotely

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rebooted and after implementing enumeration process in accordance to the USB standard, the USB Mass Storage Device Interface would have the information of the number of mass storage devices that are mounted on the administrative computer and can be utilized by the remote bootable computer;

disconnecting (disconnect by resetting the port) a USB Storage Device Emulator (Fig. 3, ref. 320) from the remote bootable computer while the USB Mass Storage Device Interface is reconfigured (reconfigure by implementing enumeration process) to show how many storage devices are mounted on the administrative computer and are available for use by the remote bootable computer (col. 9, ll. 42-59; col. 10, l. 56 to col. 11, l. 21 and col. 13, ll. 22-57); and

reconnecting (reconnect after implementing reset) the USB Storage Device Emulator to the remote bootable computer with the reconfigured USB Mass Storage Device Interface (col. 9, ll. 42-59; col. 10, l. 56 to col. 11, l. 21 and col. 13, ll. 22-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frantz et al. (US Patent 6,636,929) in view of Chan et al. (US Pub 2003/0200428).

6. As per claims 1 and 8, Frantz teaches a method, a system and a computer executable program product comprising:

a first computer (Fig. 1, ref. 200 and Fig. 2, ref. 200);

a second computer (Fig. 1, ref. 100 and Fig. 2, ref. 100) coupled to the first via a network (Fig. 1, ref. 175 and Fig. 2, ref. 175);

mounting on a first computer a required number of mass storage devices (Fig. 1, ref. 240, 245 and Fig. 2, ref. 240, 245, 295) needed by the second computer;

a storage device emulator (Fig. 1, ref. 150 and Fig. 2, ref. 150) coupled to the required number of mass storage devices and the second computer, the mass storage devices being remotely coupled to the storage device emulator via the network (Fig. 1-2 and col. 10, l. 56 to col. 11, l. 21);

means for sending a message (e.g. configuration data), from the first computer to the second computer, that informs the second computer how many storage devices are available on the first computer for use by the second computer (col. 11, ll. 4-15), wherein the message is send as the result of implementing enumeration, wherein the message sent using a web browser on the first computer (col. 14, ll. 23-27).

means for dynamically emulating the required number of mass storage devices in the storage device emulator (col. 10, l. 56 to col. 11, l. 21); and

remote rebooting of the personal computer (PC) (col. 2, ll. 16-33).

Frantz does not expressly teach a method, a system and a computer executable program product comprising means for booting the second computer utilizing the emulated mass storage devices in the storage device emulator.

Chan teaches a method, a system and a computer executable program comprising means for booting a client computer system (second computer) utilizing the mass storage devices in the control computer system (first computer) ([0072], [0075] and [0080]).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Chan's remote booting of the client computer system (second computer) utilizing the mass storage devices on the control computer system into Frantz's computer interconnecting system. The resulting combined references teach the remote booting of the client computer system (second computer) utilizing the emulation of the control computer system's (first computer) mass storage devices by the storage device emulator.

The suggestion/motivation for doing so would have been to provide the client computer system different remote booting program to meet different requirements, therefore reducing cost of the client computer system, while providing efficient utilization of the interconnecting network bandwidth ([0004] and [0091]).

Therefore, it would have been obvious to combine Chan with Frantz for the benefit of reducing cost of the client computer system by remotely providing different booting program to meet different requirements and efficient utilization of the interconnecting bandwidth.

7. As per claims 2 and 9, Frantz and Chan teach all the limitations of claims 1 and 8 respectively as discussed above, where Frantz further teaches the method, the system

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and the computer executable program product comprising assigning (enumerate by assigning a number to each connected devices) a logical unit number to each of the mass storage devices, wherein the storage device emulator communicates with each of the mass storage devices by identifying the logical unit number (device number) of the mass storage device being utilized (Frantz, col. 9, ll.42-59 and col. 10, l. 56 to col. 11, l. 21).

8. As per claims 3 and 10, Frantz and Chan teach all the limitations of claims 1 and 8 respectively as discussed above, where both further teaches the method, the system and the computer executable program product comprising wherein the storage device emulator communicates with the required number of mass storage devices by wrapping a Universal Serial Bus (USB) protocol data from the second computer in a Transmission Control Protocol/Internet Protocol (TCP/IP) packet (Frantz , col. 7, l. 46-59 and Chan, [0079], [0094]), wherein the connection between the emulator and the second computer utilized USB protocol and data must converted into a network packet conforming to the TCP/IP protocol before transmitting over the network, therefore the USB protocol data must be converted into the TCP/IP protocol by being wrapped in a TCP/IP protocol in order to be transferred over the network, from the second computer to the first computer.

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9. As per claims 4-6 and 11-13, Frantz and Chan teach all the limitations of claims 1 and 8 respectively as discussed above, where Frantz further teaches the method, the system and the computer executable program product comprising:

wherein external USB peripherals devices may be connected to the second computer (Frantz, col. 8, l. 58 to col. 9, l. 33);

wherein internal peripheral devices, comprising CD-ROM (Fig. 1, ref. 240 and Fig 2, ref. 240) and floppy drive (Fig. 1, ref. 245 and Fig 2, ref. 245), are connected to the first computer (Fig 1-2);

wherein external peripheral device may connected to the first computer through a suitable port or connection (Frantz, col. 7, ll. 15-32); and

therefore, it would be obvious to have the first computer's massive storage device comprising CD-ROM and floppy drive to be external USB peripheral devices, connected to the first computer through a USB cable.

10. As per claims 7 and 14, Frantz and Chan teach all the limitations of claims 1 and 8 respectively as discussed above, where Frantz further teaches the method, the system and the computer executable program product comprising wherein the network coupling the mass storage devices with the storage device emulator is a secure administration network (Frantz, col. 1, ll. 34-59).

11. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frantz et al. (US Patent 6,636,929) in view of Lea et al. (US Patent 6,560,635)

12. As per claim 22, Frantz teaches a method comprising:

mounting at least one mass storage device (Fig. 1, ref. 240, 245 and Fig. 2, ref. 240, 245, 295) on an administrative computer (Fig. 1, ref. 200 and Fig. 2, ref. 200);

invoking, at the administrative computer, a web browser, wherein the web browser sends a command (e.g. configuration command with configuration data), to a USB Mass Storage Device Interface (USB-MSDI) (USB Controller 80 of Fig. 2) on a bootable computer (Fig. 1, ref. 100 and Fig. 2, ref. 100), indicating how many mass storage devices are mounted on and available to the bootable computer (col. 11, ll. 4-15 and col. 14, ll. 23-27), wherein the command is sent as the result of implementing enumeration and the command is sent using the web browser on the first computer over the network (Fig. 1, ref. 175);

sending from the USB-MSDI (Fig. 2, ref. 80) to a USB Storage Device Emulator (Fig. 2, ref. 150) on the bootable computer (col. 6, ll. 39-45), a signal (e.g. reset signal) that instructs the USB Storage Device Emulator to disconnect (i.e. disconnect by resetting the port) from the bootable computer while the USB-MSDI is being reconfigured with an appropriate number of mass storage devices (col. 11, ll. 4-21 and col. 13, ll. 23-39), as the host detects the change in the number of USB peripherals connected, a reconfiguration period associated with the reconfiguration of the USB-MSDI commences with the reset signaling (i.e. wherein the resetting would result in the disconnection) following by the enumeration procedure, wherein the enumeration

procedure provides the USB-MSDI with the correct number of mass storage devices connected currently,

wherein the appropriate number of mass storage device is limited to a maximum Logical Unit Number that is set by the administrative computer (col. 11, ll. 4-11), because the administrative computer (Fig. 2, ref. 200) provides the configuration data associated with the total number of USB peripheral devices currently connected, wherein the total number provides the maximum number, therefore the administrative computer's configuration data limits by setting the maximum number of mass storage devices able to be connected; and

subsequently reconnecting the USB Storage Device Emulator to the bootable computer, wherein the USB Storage Device Emulator now presents the appropriate number of lass storage device as emulated mass storage device (col. 11, ll. 4-21 and col. 13, ll. 23-39), wherein the disconnection and reconnection is implemented as result of the reset signal.

Frantz does not teach the method comprising adding the emulated storage devices to a list of drives that are connected to the bootable computer.

Lea teaches a system and a method comprising a current list of all the devices in a network, wherein the current list would have the updated list of all devices connected after the triggering of a bus reset, wherein the bus reset is resulted from adding or removing a device from the network (col. 7, ll. 16-27).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Lea's current list of all devices into Frantz's bootable

computer. The resulting combination of the references teaches the method further comprising updating a current list of all devices that are now connected to the bootable computer after triggering the bus reset.

Therefore, it would have been obvious to combine Lea with Frantz for the benefit of enabling the determination of the most appropriate host to control the newly-added device (Lea, col. 7, ll. 24-27).

13. As per claim 23, Frantz and Lea teach all the limitations of claim 22 as discussed above, where Frantz further teaches the method comprising wherein the emulated mass storage devices are added to the list of drives in response to an operating system of the bootable computer detecting the USB Storage Device Emulator with the emulated mass storage devices (Frantz, col. 13, ll. 29-34), as the server processor (Frantz, Fig. 2, ref. 25) on the bootable computer determines that there is a change, such as adding a new USB peripheral, the reconfiguration of the USB-MSDI is implemented and the current list is updated.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L
08/18/2006


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